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ABSTRACT

Research results are presented of a two-year experimental field study investigating the effectiveness of the Suggestive-Accelerative Lozanov Teaching (SALT) method applied to varying levels of socio-economic level, grade level, and subject matter. This teaching method uses components of preliminary physical and mind calming exercises, although with indirect suggestion, prior to the formal learning process. Instructional processes utilize a dramatic and dynamic presentation coupled with special mind-calming exercises designed to promote high retention of curriculum material presented. Results of this study are presented in both narrative and tabular form. (JD)

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Suggestive-Accelerative Learning and Teaching

(SALT) in the Classroom*

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Suggestive-Accelerative Learning and Teaching

Abstract

This two year experimental field study investigated the effectiveness of the Suggestive-Accelerative Lozanov Teaching (SALT) method applied to varying levels of socioeconomic level, grade level, and subject matter by 16 public school teachers during the first year and 10 during the second. Most of the teachers on this project were those who had responded to a request to learn a new teaching method in the Summer, 1976, and subsequently took a 120 hour teacher training workshop that same summer. Six of the teachers were trained in a 40-hour abbreviated workshop covering the same principles in the background of Suggestology/Suggestopedia; openness in a greater communication by the teacher; creative dramatics; testing development; and some research design. The subject areas taught included elementary school spelling, reading and health, junior high earth science, life science, art and agribusiness, plus German I and a pilot project in German II. Grade levels ranged from the first grade through the 10th grade. Criteria were achievement tests specific to each of the experimental teachers and also the Brooks Student Questionnaire, which measured three independent student attitudes of student-teacher affective relationships, perceived school stress, and school-learning orientation. A minor criterion was the Levenson Locus of Control test utilized by two teachers during 1976-77 and one during 1977-78. In terms of raw data for all teachers, there was much support after the second year for the SALT method in terms of accelerating achievement and essentially no support in terms of student attitudes. The SALT method appeared to be equally appropriate for elementary as well as junior high school students. There were no great differences between results with low socioeconomic status students vs. those at the middle socioeconomic status stratum.

In view of the significant accelerative results achieved by most of the second year teachers in achievement, the method appears to be definitely worthy of further study and implementation in a public school system.

A Two Year Evaluation of the Suggestive-Accelerative Learning and
Teaching (SALT) Method in Central Iowa Public Schools

Introduction

The purpose of this educational field experiment was to determine the effectiveness and the appropriateness of using the Suggestive-Accelerative Learning or Lozanov Teaching (SALT) method for improving classroom attitudes and achievements in selected central Iowa public schools.

Achievement test scores in the U. S. school system have shown a declining pattern for the last decade (Harnischfeger & Wiley, 1975). The research described herein was an effort to try out, then evaluate a promising new educational method that was felt to have the potential of halting and reversing this downward pattern.

There are only a few research reports in this country describing the Lozanov method. What is known about the process comes chiefly from a translation into English of Lozanov's work (1971). His work has demonstrated that learners are capable of learning material at accelerated rates using suggestive methodology: "Students could be taught foreign languages five or more times faster than by normal methods." The Lozanov method has been shown to be effective in teaching many types of school subjects in Europe.

The most recent educational research on a large scale was reported by Lozanov (1975). He applied suggestopedia to Bulgarian primary schools for teaching beginning reading and arithmetic. Two large comparable urban schools and two small rural schools were studied. One school of each size used suggestopedia; the others were controls. Pretests at the start of the 1973-74 school year showed the students initially were comparable in reading and math. But at the end of

the school year, both urban and rural experimental pupils had higher reading and math scores than did the controls. This was true in spite of the fact that the experimental students had covered all nine months' material in the first 3 1/2 months. Beginning English and German had to be used as fillers to occupy the students in classes!

Only a few attempts have been made (originating in Iowa, Georgia, and Texas) to adapt Lozanov's methodology to U. S. schools. Briefly, Gritton, et al. (1976) reported a pilot program for eighth grade science students in a Des Moines junior high school who were significantly behind two control schools in the fall. After four months of instruction using Americanized suggestopedia about 1/5th of the time, these same students gained significantly and caught up to the control school pupils in sciences. Prichard and Taylor (1976) reported a remedial reading program conducted in suburban Atlanta which has since averaged four months gain per month of instruction. Owen Caskey (1976) described similar application in Texas.

Several U. S. university-based studies have investigated language teaching with suggestopedia. Bordon and Schuster (1976) used the method successfully for Spanish. Schuster (1976) also reported favorably that it was possible to speed up the teaching of beginning Spanish three times faster than usual with this method at the university level. Held, in his Iowa State doctoral dissertation (1976), reported data for teaching and remembering word meanings to elementary school students that provide some support for the Lozanov approach.

The Lozanov method uses components of preliminary physical and mind calming exercises, along with indirect suggestion, prior to the formal learning process. Instructional processes utilize a dramatic and dynamic presentation coupled with special mind-calming exercises designed to promote high retention of curriculum material presented.

The version of the Lozanov method practiced in this project has three primary phases. Phase one is a preparation phase in which learners are required to perform simple physical exercises, undergo mind-calming exercises, and use imagery to recall early pleasant learning experiences. Phase two is the presentation phase where a positive suggestive atmosphere is created by the instructor. This involves a process in which desuggestion is used to remove barriers that learners have set on their learning skills. The first presentation of curriculum material is made in a fascinating and artistic fashion with dynamic, dramatic swings of intonation on emphasis from shouts to whispers while learners try to project themselves into the material and experience it. The second step in the presentation phase is passive in nature and the instructor requests that learners relax and listen to material presented while listening to background music. During the third phase, practice, learners converse and use the material presented before. Role playing is encouraged and tests are given. Tests are corrected but left ungraded. Grading is done primarily on the basis of an announced final exam.

A basic difficulty in installing the Lozanov method in U. S. public schools is that it is so new that it has been little used, studied and disseminated. It has been, and is being, used successfully in schools located in Bulgaria, Russia, Germany, Hungary and Canada, but it has been employed only to a limited extent here in the United States. The basic question is how best to adapt an effective European educational method in America?

The first year on this project showed only limited support in terms of achievement for the SALT method vs. the control students. However, many administrative and testing problems occurred during that first year which made the fairness of the test situation uncertain for half of the teachers. With one

minor exception, all of these previous administrative difficulties were successfully overcome in the second and last year on the research project. The resolution of administrative and testing problems plus a second year practice effect generated by dedicated, capable teachers produced data definitely in support of Lozanov's theories.

Method

The research design to evaluate the effectiveness of the SALT method was fairly straightforward, the basic idea being that of differential treatment for two groups and pretest, posttest design. In addition, some attempt was made to obtain teachers in different subject matter areas, grade levels, and socioeconomic levels. A major subject matter area was spelling.

For nine of the ten teachers, thus, the research design is what is called a non-equivalent control group design, each SALT teacher was paired with a teacher in the same neighborhood teaching the same subject matter and at the same socioeconomic level. A pretest-posttest design was used in an attempt to compensate for possible preliminary differences between students.

One of the ten teachers (in vocational agriculture) varied his teaching so as to provide his own control students. This vocational agriculture used a Dr. Jekyll-Mr. Hyde design in that he taught two sections of vocational agriculture with the SALT approach and the other two of his four sections with a conventional approach to teaching. The experimenters analyzed preliminary achievement data on the students and randomly selected which two of the four sections should have the SALT treatment and which two should be controls, taught conventionally.

Special emphasis was given to investigating the socioeconomic status of students by grade level in the area of spelling. Consequently, six of the ten SALT teachers who completed the project used spelling as the test subject matter.

An attempt was made to get at least one teacher at both the low and middle-socioeconomic level for each of two grade levels. Spelling was investigated in some detail then for both low and middle-socioeconomic levels and in grades three and five. Special interest centers on the effectiveness of the SALT method for students from lower socioeconomic backgrounds compared with students from middle-class backgrounds. Students from low socioeconomic backgrounds are usually not motivated to learn and achieve in school. They are perhaps more motivated to avoid learning and escape the school environment. One of the purposes of this experiment was to attempt to reverse this common occurrence, produce students who are eager to learn and enjoy a particular subject area.

This field experiment had three major phases: (1) training the teachers to use the SALT method, (2) actually using the method in classroom situations, (3) preliminary evaluation of the effectiveness of the method, and then final evaluation. The major teacher training was done in a 120-hour second summer session 1976 ISU workshop while six additional teachers were trained in a 40-hour in-service teacher training project during the fall and winter of 1976. The first year data collection phase ran from September through May, 1977 for half of the teachers and from February through May, 1977 for the remaining teachers trained during the fall and winter. Second and final year data collection was from September, 1977 through May, 1978.

There were two major types of criteria or dependent variables. First was the achievement criterion which was unique to each pair of teachers, SALT vs. control. The criterion test depended, of course, on the subject matter such as spelling, art, reading, German, or vocational agriculture. In some few cases, standardized achievement tests were used as was the case for art (Eisner Drawing Test; Eisner, 1967), German (Common Concepts Foreign Language Test: German;

Banathy et al., 1966), and reading (California Achievement Test; CTB/McGraw-Hill, 1973). For the remaining areas of spelling and vocational agriculture, achievement tests were developed in active collaboration with the SALT and the control teachers. The concern here was to develop two alternate forms of the same achievement test that would be of comparable difficulty and that would sample comprehensively from the material that the teacher was going to cover that school year. Spelling teachers were asked to provide us with their textbooks from which words common to both teachers were selected for testing. One form of the test was then given as pretest in the fall, and the alternate form was given as posttest in May. For the standardized tests, there was just one test form available and it was given both as pretest and again as posttest.

The second major criterion was the Brooks Student Questionnaire (BSQ) as refined by Schuster and Millard (1978) which measures the attitudes of students on three independent scales of student-teacher affective relations, perceived school stress, and school-learning orientation. There is only one form available. The test was administered as pretest in the fall of 1976 and as posttest in the spring of 1978. The BSQ test appears to have adequate factorial validity, generalizability, and reliability. Specifically, the test measured the same three independent factors listed above across three levels of public school children, elementary, junior high, and high school students. Also, these same factors were corroborated in three different school districts, SALT pretested elementary students, Saydel and Newton sixth grades.

A third and minor criterion was locus of control as measured by the Levenson IPC Test (Levenson, 1973). This test measures a student's locus of control, whether a student feels in control of his or her own destiny in the school environment as well as life in general (Internal control) or whether the student feels that powerful other people (P) control him or her, or whether the student is a victim of chance (C).

The research hypothesis for all of these criteria was that the students who had been taught with SALT would show a favorable improvement on achievement, attitudes and locus of control as compared with gains or losses over the same period by students taught in the traditional or conventional manner, however the individual control teacher defined it.

It is appropriate to make some comment here about what the teachers were taught in the teacher training workshops. These activities were structured around the following 15 activities or modules.

1. Didactic presentation of SALT/Suggestopedic cognitive material. This focused on suggestive positive atmosphere and whole brain learning concepts.

2. Affective training of participants in being able to perceive, process, and communicate emotional expressions. The purpose was to establish an accepting and non-threatening learning atmosphere.

3. Supervised teaching. This provided the teacher trainees the practical, supervised, and controlled teaching experience using the SALT methodology in their own subject matter area.

4. Training in intuitive, perception/communication. This provided trainees with opportunities to enlarge and develop their abilities to trust, to perceive communication without distortion, to discover and foster their professional selves and to communicate their intentions clearly in a non-manipulative way consistent with Lozanov's concept of an integrated double plane communications model.

5. Lesson plan preparation. The teachers developed lesson plans incorporating didactic classroom materials within a SALT framework.

6. Development of assertive, artistic, and aesthetic communication. With a variety of structured activities, the participants were helped to develop a personal style that was honest, self-accepting, self-assertive, attractive, dynamic, and effective in communicating both verbally and nonverbally. Some of the activities were voice training, stage presence, singing, nonverbal communi-

cation, and creative dramatics.

7. Interpersonal relationships training. The basic technique here was an initial T-group experience to break the ice and to provide the teachers with a means for making personal adjustments to the demands of the training program and the subsequent program requirements. A goal here was to establish a clear and open channel of communication between the teacher and project administrators.

8. Development of testing and evaluation instrumentation for classroom use. The trainee teachers had to be aware of the need to demonstrate that a gain existed from their students and that the teachers had to know how to develop a valid and reliable test criterion for this purpose.

9. Management of therapeutic side effects of SALT. The purpose of this activity was to make the teacher trainees aware of their suggestive impact and their role as a teacher/therapist through structured activities and discussion groups. This was felt to be an important part of teacher training as Lozanov claims (1971) that the biggest advantage of suggestopedia is not its educational acceleration, but its development of the human potential, including freedom from emotional hangups.

10. Foreign language learning through SALT. To convince the teachers that SALT worked and to provide them with a sample of the SALT techniques and methodology, approximately ten hours of the summer teacher training course were devoted to giving the teacher trainees a short course in basic Spanish. This included giving them a quiz over material covered so as to show them how much they had learned in a short time.

11. Mind-body interaction awareness and training. The training activities included short demonstrations of the effect of one's state of mind or emotion on heart rate as well as mood on learning.

12. Training evaluation and feedback. Group and individual discussions were held frequently to permit the teachers to evaluate how well the group of teachers was doing. Correction of activities and changes in the direction of the workshop happened frequently as a result.

13. Group interaction awareness and training. The teachers were trained in the use of how groups operate and interact with the techniques of psychodrama, role-playing, and creative dramatics applied to classroom work.

14. Development of teacher expectations. Teachers were taken through a number of activities designed to get them to change their teaching style and stimulate their personal growth. This was done in part with the help of the practical background in SALT that they got in the workshop, from improving their communication skills and teaching experience with SALT, and developing curriculum skills for their SALT classrooms.

15. Research design. A certain minimum of research design philosophy was felt essential for the SALT teachers, that is, the necessity of pretesting and posttesting, the use of a comparison group, the use of valid tests, and certain rigorous experimental procedures.

We encountered considerable teacher attrition over the course of the project, losing a total of six teachers who began the project in 1976. Three of these teachers discontinued SALT at the start of the year for personal reasons, mostly because using SALT required much extra effort in terms of classroom preparation. The other three teacher dropouts were accounted for as follows. One teacher wanted to use the method in fourth grade spelling, but had to discontinue after several weeks because the use of audio equipment disturbed students in the adjacent classroom when SALT was used. The ninth grade earth science teacher resigned late in the spring, due to an argument with his principal over how to

handle classroom discipline. We continued to have a problem with the remedial math teacher for grades 7-10, who during the previous year had spent very little effort in preparing SALT materials for his classrooms and had administered no pretests. He continued this same behavior during the second year of the project; that is, in addition to teaching math his own way, he obtained no pretest scores. Therefore, we had no choice but to drop him.

It should be noted that three other teachers were in training, but since they had not attended any of the teacher training workshops and had only read the SALT teacher's manual, we felt it would be inappropriate to include them in the testing program. One of these teachers was working in high school social science, psychology and sociology; another one was beginning German at the ninth grade level; and the last one was a seventh grade Spanish teacher.

We encountered two other administrative problems in addition to attrition during the course of the second project year. The seventh grade art teacher had a major health crisis of such severity that he was not able to teach his art classes during the months of December and January. Subsequently, he did not administer the art pretests until March, 1978. This teacher wanted to continue in the program, so we did include his data even though only two months elapsed between his pretest and posttests. In comparison, the control art teacher carried out eight full months of instruction between pretest and posttest. Thus we feel the lack of results for this teacher can be explained by his not having taught very long in comparison with the control teacher.

The second problem occurred in conjunction with the German teacher who did what amounted to a pilot project with teaching second year German with SALT. We attempted to get comparison data from two teachers for second year German.

The first control teacher had only six students taking second and third year German. The second control teacher had approximately 20 students in second year German and provided us with pretest data. However, this second control teacher refused to administer the posttests on the basis that they took too much time in the spring of 1978. Thus, due to the low number of students involved, we felt that the data for the second year German project should best be viewed as a pilot project rather than a full-blown experimental project. Fortunately there was control data available for this teacher's German I class.

Results

We now turn to a summary of program results over the two year duration of the project. Each pair of SALT and control teachers was treated as a separate experiment. The pre and posttest data were analyzed with analyses of variance, or analyses of covariance when appropriate for each teacher. Separate reports have been written for each teacher and are being combined according to subject matter area for publication in other journals.

A summary of results for all teachers is provided in Table 1. Achievement and attitude (three BSQ subtests) results are shown along with classification by subject, grade level, and socioeconomic status.

Insert Table 1 about here

The achievement data for the first project year were not impressive. Four of the 16 SALT teachers showed positive results, i.e., in three cases their students scored significantly higher ($p < .05$) than the control classes, while one teacher covered the same lesson material as a comparison class with

similar test results, but in only 40% of the control's class time. Three teachers showed significant negative results, that is, the SALT-taught students did worse than conventionally taught students. Nine SALT teachers either produced results comparable to control classes (8 cases) or had no appropriate standard for comparison of results (Teacher #14, who taught in a remedial learning center for learning disabled students).

Two factors heavily influenced the first year project achievement results. The first factor was an inappropriate testing procedure, particularly for the eight spelling teachers. Since the SALT and control teachers used different textbooks, the problem of covering equivalent material had to be faced. It was dealt with (though unsatisfactorily) by taking lists of 50 spelling words submitted by both members of each SALT/control teacher pair, combining them into a single list of 50 words, then providing the combined list to both teachers with instructions to be sure to cover those words during the year. Thus, both SALT and control teachers knew the words from which the posttest would be taken, though there was no administrative control over either the amount of or timing of emphasis placed on those words. Another testing problem arose with art, where we used the Torrance Test of Creative Thinking (figural) which is a test of creativity, not art per se. Although interesting project-wide results did occur on the Torrance Test (note subsequent discussion), they did not occur in the 1976-77 art class. No doubt an alternate measure would have been appropriate.

The second factor which undoubtedly influenced first year achievement results was the inexperience of the original assistant project director who had not worked previously as a teacher trainer, combined with the hospitalization

during the year of the project director who required surgery and was not able to function at full strength in support of the SALT teachers.

The three BSQ subtest scores did provide evidence of a minor affective trend in favor of SALT classes. Although Table 1 indicates that the large majority of the SALT/control subtest comparisons indicated no significant differences, it is also clear that whatever change that did occur was distinctly in favor of the experimental classes. A total of 10 subtest comparisons favored ($p < .05$) SALT, while only one comparison favored ($p < .05$) a control teacher. Seven SALT teachers recorded at least one significant BSQ subtest comparison, while as previously mentioned only one control teacher managed even a single significant positive BSQ subtest result.

The second project year was much more favorable to the SALT classes in terms of achievement comparisons. Seven of the ten SALT teachers showed significant ($p < .05$) positive results, while another one was near significance ($p < .08$) with a significant treatment by sex interaction favoring SALT male students. No teacher showed negative results, that is, the SALT-taught students never did worse than the conventionally taught students.

Although a more appropriate measure of art achievement (the Eisner Drawing Inventory) was employed during 1977-78, the SALT art class showed no difference vs. its control. However, the pre-post testing interval was much shorter for the experimental class. As noted earlier, the SALT art teacher had severe health problems resulting in his not teaching for part of the school year, thus the test-retest interval for him was only two months vs. eight months for the control teacher. This teacher and his data might well have been excluded, but the teacher wanted to continue and be a part of the project. Explaining the lack of significant results for the remaining teacher is more uncertain.

The project staff was uncertain of the nature of her program, for she invited us to visit her classroom only once during the year. Thus, we suspect that she was considering dropping the SALT program but did not choose to inform us of her lack of commitment. Another possibility accepts the null hypothesis: this teacher had tough competition leading to a standoff. Although we speculate that her use of SALT was minimal and feel that this was another case in which test data could have legitimately been excluded from the analysis, we nevertheless report her results as they occurred.

To summarize achievement results in 1977-78, we feel that the SALT method achieved good results for eight of ten teachers, while the remaining two teachers showed no difference in their SALT vs. control comparisons.

BSQ data were mixed during the second project year, for as during the previous year, the large majority of the SALT/control subtest comparisons indicated no significant attitudinal changes. A total of 10 subtest comparisons were significant ($p < .05$), however, they were equally divided between favoring SALT and control classes. Thus no trend was established.

Other Evaluative Data

The achievement and BSQ data were not the only measure of change available to the project staff. Although the following discussion focuses on data obtained primarily during the first year of the project and which were considered to be of less overall importance, these measures (creativity, classroom attendance, and another affective scale) nevertheless deserve mention.

Dr. Jonathan Edwards (president-elect, Society for SALT, 1978) conducted his dissertation research during 1976-77 in conjunction with the project.

The purpose of his study was to examine what effects SALT had on the creativity

of low and middle socioeconomic status (SES) fifth and eighth-ninth graders in central Iowa. SALT, based as it is on the Lozanov method of suggestopedia, is obviously an instructional method directed toward tapping the reserve capacities of the learner through conscious and especially unconscious means. If SALT made learning easier and faster than "conventional" teaching methods, but at the expense of student creativity, the method would have limited value. Though the underlying principles of SALT and creativity appear compatible, only one experiment specifically has investigated this relationship and found that creativity was encouraged.

A $2 \times 2 \times 2 \times 2$ nonequivalent control group design was used with univariate analysis of covariance to determine the effects and interactions of treatment, grade level, SES, and sex on 11 verbal and figural creativity variables derived from raw scores on the Torrance Tests of Creative Thinking. One hundred seventy-five pupils (the sampling unit) were exposed to SALT for six-to-seven months by previously trained teachers. Comparison groups met the assumption of homogeneity of regression for 10 of the 11 dependent variables. Results from four auxiliary studies indicated that uncontrolled effects of pretesting, history and maturation on posttest scores were small.

Insert Table 2 about here

SALT significantly increased creativity as measured by five variables: verbal flexibility, figural fluency, flexibility and elaboration, and the number of creative strengths. The direction of differences favored SALT for all 10 dependent variables. Significant differences in creativity were found

favoring fifth graders on verbal originality, figural fluency and flexibility, while a difference favored eighth-ninth graders for verbal flexibility. The direction of differences due to SES favored middle SES subjects for all 10 measures of creativity, five of which were significant: verbal flexibility and originality, figural elaboration, abstract titles, and creative strengths. Nine first order interactions were found involving treatment, grade and SES. They are displayed in columns H_2 and H_3 of Table 2, and indicate significant interactions between the experimental treatment and fifth graders, and also between the treatment and middle socioeconomic status students.

Data on student absences were collected during the first project year for an eighth grade low-socioeconomic status SALT teacher and from a comparison teacher in the same school. Three days in the school year (April 21, 22, 25, 1977) were selected to be well away from sickness epidemics and from holidays and/or spring vacations. The absenteeism rate was significantly less ($p < .05$) for the SALT students on all three days. The overall absenteeism rates for the three days combined were SALT, .089, and control, .213. Thus, the SALT students were absent from school less than half as much as students in the conventionally taught classes. While these data are meager, they do tend to provide indirect support that students like SALT classes and they show this enjoyment by coming to class more often.

In addition to the BSQ, another affective measure, the Levenson IPC locus of control (previously described) was administered by teacher number 10 and 15 during 1976-77 and by teacher number 15 alone during 1977-78. Both teachers showed one significant improvement on the three Levenson scales by

SALT students during the first project year. The class taught by teacher number 10 showed a significant improvement in the Levenson "people" scale; that is, the students felt at year-end that other powerful people controlled them less ($p < .05$) than did the control class students. For teacher number 18, there was significant improvement in the Levenson "internal" scale in favor of the SALT group; that is, the SALT-taught students felt more ($p < .05$) in control of their own destiny at year-end than did the students in the control class. Teacher number 15 also administered the Levenson scale during the second year but found no significant results on any of the three scales. His different research design (Dr. Jekyll-Mr. Hyde) may have contributed to lack of results.

Thus, the Levenson data followed the pattern set by the BSQ data. That is, the majority of the first year comparisons (four) indicated no significant differences between SALT and control groups, while the two differences that did occur favored SALT. Second year data indicated no significant differences at all, thus replicating that stand-off situation of the BSQ analysis in which most comparisons were insignificant while the significant comparisons were equally divided between SALT and control classes.

Discussion

Readers familiar with the snail's pace at which change occurs in U. S. public school education can appreciate the enormity of the undertaking and the perhaps naive ambition represented by the 1976-78 Iowa SALT project. Consider the demands placed upon participating teachers: After a 120-hour (only 40 hours for some) training period covering a wide variety of topics, many of which deserved at least one full college course, the teachers were expected to:

1. Accept the proposition that suggestion is a powerful, but usually only inadvertently-used tool which is capable of freeing students' minds for higher levels of achievement.

2. Install and regularly carry out an instructional cycle which contained unfamiliar activities (e.g., the relaxation/visualization/music review) together with other activities with which they were somewhat familiar, but had little real facility (most people would agree that a good teacher should conduct interesting lessons which motivate students through the use of the fine arts...but how many teachers actually do that?).

3. Accomplish this without appropriate materials, with a relatively small amount of training, and during the first project year, with little administrative support.

4. Be judged on a student output (measured achievement) basis, rather than by the evasive mutterings characteristic of most educational evaluations.

Fortunately, the project teachers were mostly veteran, only two were in either their first or second classroom year. They were, in general, good disciplinarians, had firm command of their subject matter areas, had sufficient professional dedication to attempt real change in their teaching styles, and had principals who approved of their efforts.

Given recognition of the hard work expended in advancing this far, the obvious question is, what next? Even though the advantages of SALT over conventional instruction have been demonstrated, what does it take to do more than that? Statistically significant results are fine, but what about tapping the mind's reserves...what would it take to make SALT classes really take off and fulfill their potential in terms of leaving the rest of educational technology far behind?

The authors feel there are four major factors involved in the expansion and refinement of SALT.

1. A realistic appraisal on the part of any SALT project administrator concerning the facilitation of change in teacher behavior, together with a management plan for incorporating such change at an optimal rate.
2. Extensive professional training for teachers in the integration of the fine arts (art, music, and drama) into a positive-suggestive teaching style.
3. Lesson materials developed specifically for SALT classes which ease the burden of installing new teaching methods.
4. Further research into the details of the two parts of the review (active and passive session) portion of the SALT cycle.

Until these concerns are fully met, it is entirely possible that SALT may be classified as just another good idea that serves better than most when one works hard at it, rather than being recognized as the combination of techniques which enables the promise contained in Lozanov's elegant theories to be fulfilled. It is the hope of the authors that the best minds in North American educational research will be attracted to the task of refining the use of suggestion as a teaching tool, leaving more pedestrian issues aside.

Conclusions

These conclusions, based primarily on second year data, seem appropriate for SALT:

1. There is justification for the claims of SALT as an improvement over conventional methods of instruction. Seven of ten SALT teachers did significantly better ($p < .05$) than their controls on achievement while another SALT teacher approached ($p < .08$) accepted statistical standards of significance. The SALT and control classes were equal in their effect on student attitudes.

2. SALT apparently worked equally well at both the low and mid socio-economic stratum. There were no differences in the efficacy of SALT between elementary school and junior high classes.

3. Further refinement of SALT should be based upon improved management systems, training emphasis upon the fine arts, creation of appropriate materials, and further research into the review (active and concert sessions) SALT cycle segment.

4. The SALT method is progressing through its developmental stages on schedule, and already deserves wider application in the public schools.

References

- Banathy, B. H., Zintz, M. V., Popham, W. J., Sadnavitch, J. M., Krichbaum, R., Gannon, F. B., Hempel, V., & Mueller, K. A. Common Concepts Foreign Language Test: German (CCFLTG). Monterey, Calif.: CTB/McGraw-Hill, 1966.
- Bordon, R. B. & Schuster, D. H. Foreign language learning via the Lozanov method: Pilot studies. Journal of Suggestive-Accelerative Learning and Teaching, 1976, 1(1), 1-15.
- California Test Bureau. California Achievement Tests. Monterey, CA: CTB/McGraw-Hill, 1973.
- Caskey, O. Ongoing Suggestopedic research in Texas. Journal of Suggestive-Accelerative Learning and Teaching, 1976, 1(4), 350-359.
- Edwards, M. D. The effects of suggestive-accelerative learning and teaching (SALT) on creativity. Unpublished doctoral dissertation, University of Georgia, 1978.
- Gritton, C. A. & Bordon, R. B. Americanizing Suggestopedia: A preliminary trial in a U. S. Classroom. Journal of Suggestive-Accelerative Learning and Teaching, 1976, 1(2), 83-94.
- Harnischfeger, A. & Wiley, D. E. Achievement test score decline: Do we need to worry? Chicago, Ill.: CEMREL, Inc., 1975, 160 pp.
- Held, D. F. The effects of the Lozanov method for teaching word meaning to fifth and sixth graders. Unpublished dissertation, Iowa State University, 1976.
- Levenson, H. Multidimensional locus of control in psychiatric patients. Journal of Consulting and Clinical Psychology, 1973, 41, 397-404.
- Lozanov, G. Suggestologia (in Bulgarian). Sofia, Bulgaria: Izdatelsvo Nauka i Izkustvo, 1971. English translation, New York: Gordon & Breach, 1978 (in press).

Prichard, A. & Taylor, J. Adapting the Lozanov method for remedial reading instruction. Journal of Suggestive-Accelerative Learning and Teaching, 1976, 1(2), 107-115.

Schuster, D. H. A preliminary evaluation of the suggestive-accelerative Lozanov method in teaching beginning Spanish. Journal of Suggestive-Accelerative Learning and Teaching, 1976, 1(1), 41-47.

Schuster, D. H., Bordon, R. B., & Gritton, C. A. Suggestive-accelerative learning and teaching: A manual of classroom procedures based on the Lozanov method. Des Moines, Iowa: SALT Society, 1976, 128 pp.

Schuster, D. H. & Millard, J. E. The psychometric refinement of the Brooks Student Questionnaire. Educational and Psychological Measurement, 1978 (in press).

Table 1
Achievement and Affective (BSQ) Data Summary
1976-78 SALT Project

Teacher Identification			1976-77				1977-78			
Teacher Number	Subject	Grade & SES	Achievement	Affective Relations	School Stress	Learn. Orien.	Achievement	Affective Relations	School Stress	Learn. Orien.
1	Spelling	3, mid	-			+	++	--	-	
2	Spelling	3, low	+			+	+	+		
3	Spelling	6, low					+	M	M	
4	Art	7, low	-		+				+	-
5	Spelling	1, low	+			+	M	np	np	np
6	Spelling	4, low				+				
7	Health Science-Reading 78	5, mid		-			++			
8	Earth Sci.	9, low	+	+	+	+				
9	Spelling	5, low					++		-	
10	Life Sci.	7, low								
11	Spelling	4, low								
12	German	9, mid					++			+
13	Spelling	5, mid	-							-
14	Math, Reading	9, low	p+	p+						
15	Ag. Bus.	10, mid 9, low	T	+		+	++			
16	German	9, mid								

++ significant at $p < .01$ in favor of SALT
 + significant at $p < .05$ in favor of SALT
 -- significant at $p < .01$ in favor of Control
 - significant at $p < .05$ in favor of Control

 Did not participate during 1977-78

Blank - No significant differences
 np No BSQ pretest data
 p+ No control data, practical gains
 T 2½ to 1 time advantage, SALT over control
 M Significant ($p < .05$) interaction favoring SALT males

Table 2

Summary of Findings for Each Creativity Hypothesis, Indicating
Significant Differences and Their Direction

	H ₁ Treatment (T)	H ₂ Grade (G)	H ₃ SES (S)	H ₄ TxG	H ₅ TxS	H ₆ GxS	H ₇ ^b TxGxS
Verbal							
Fluency	S ^a	9 ^a	M ^a	S9*	SM	9M	
Flexibility	S*	9*	M*	S9	SL	9M*	
Originality	S	5*	M*	S9	SM	9M*	
Figural							
Fluency	S*	5*	M	S9*	SM*	5M	
Flexibility	S*	5*	M	S9	SM*	5M*	
Originality	S	5	M	S5	SM*	5M	
Elaboration	S*	9	M*	S9	SM*	5M	
Abs. Titles	S	9	M*	S5	SM	5M	
Unusual Per.	S	9	M	S5	SM	5M	
Creative St.	S*	9	M*	S5	SM	9M	

*p < .05

^aAbbreviations: S - SALT

9 - Eighth-ninth graders

M - Middle socioeconomic status

L - Low socioeconomic status

^bNo significant second order interactions were found. Direction of differences are not indicated.